

Claims

1. Image-generation device (1), in particular for  
installation in the roof area of a motor vehicle for the  
5 purpose of detecting an object or, as the case may be, an  
element in the interior of the vehicle or  
for installation in the exterior rearview mirror of a  
motor vehicle for the purpose of detecting an object or,  
as the case may be, another vehicle on the adjacent  
10 roadway lane  
characterized by  
- a first printed board (10) for highly complex  
semiconductors, such as microcontrollers (11),  
memories (12), etc., having at least one optical  
15 image-recording sensor (50); and  
- a second printed board (20) for all other  
components such as, in particular, large  
capacitors, transistors, resistors, coils, and  
plug-in connectors etc. (21, 22);  
20 with the first printed board (10) and/or second  
printed board (20) being located, secured  
preferably by adhesive means, on a metallic base  
plate (40).
- 25 2. Image-generation device (1) according to claim 1  
characterized in that at least the first printed board  
(10), but preferably also the second printed board (20),  
has thermal pads, vias, or what are termed Peltier  
elements (13).
- 30 3. Image-generation device (1) according to claim 1 or 2  
characterized in that an optics means (51), preferably  
pre-assembled together with a housing (53) or a retention

means (32), is rigidly located centrally above the optical image-recording sensor (50).

4. Image-generation device (1) according to one of claims 1 to 3 characterized in that at least the first printed board (10) has been manufactured or, as the case may be, equipped using chip-on-board and/or flip-chip technology.

5. Image-generation device (1) according to claim 4 characterized in that the first printed board (10) has a multiplicity of layers for connections and defined impedances.

6. Image-generation device (1) according to one of the preceding claims characterized in that the first printed board (10) and the second printed board (20) are located inclined at any angle with respect to each other.

7. Image-generation device (1) according to one of the preceding claims characterized by a third printed board (30), located preferably between and/or to the side of the optics means (51), having an illuminating unit (31).

8. Image-generation device (1) according to claim 7 characterized in that the third printed board (30) is retained by the housing (53) for the optics means (51) and/or by a separate retention means (32), with the optics housing (53) and/or the retention means (32) establishing, preferably by means of metal plating at least on its surface, an electric connection between the illuminating unit (31) and, for instance, the first printed board (10).

9. Image-generation device (1) according to claim 7 or 8 characterized in that a thermal insulating medium (60), in particular a thermal shield (60), is located between the first printed board (10) and the third printed board (30).

10. Image-generation device (1) according to one of the preceding claims characterized in that the second printed board (20) and/or the third printed board (30) is an FR4 circuit board or a metal circuit board.

11. Image-generation device (1) according to one of the preceding claims characterized in that the process of connecting the chip terminals to the printed board (10; 20; 30) and of interconnecting the first (10) and/or second (20) and/or third (30) printed board takes place using bond wires (70).

12. Image-generation device (1) according to one of the preceding claims characterized in that the bond wires (70) and/or components (11; 12; etc.) adjacent thereto are protected from external influences by means of a sealing compound (80).